Hello Everyone,

We've finished the April 1, 2014 Water Supply Index (WSI) and Bulletin 120 (B120) forecasts. The forecasts include observed conditions through the end of March. The forecasts are posted at:

WSI: http://cdec.water.ca.gov/cgi-progs/iodir/wsi
B120: http://cdec.water.ca.gov/cgi-progs/iodir?s=b120

Forecast Summary:

The projected median April-July runoff in the major Sierra river basins ranges from 13 percent on the Tule River to 58 percent on the Pit River. Forecasted median Water Year (WY) runoff ranges from 11 percent for the Tule River to 48 percent for the total inflow to Shasta Lake. The WY forecast for the Inflow to Shasta Lake is helped significantly by the Pit River and McCloud WY-to-date flows which are over 55 percent of average while most other rivers on the west side are flowing at or below 42 percent of average. The WSI forecast can be summarized as follows:

Sacramento River Unimpaired Runoff Water Year Forecast	**7.6 MAF**
(50 percent exceedance)	(42 percent of normal)
Sacramento Valley Index (SVI)	**4.1**
(50 percent exceedance)	(Critical)
San Joaquin Valley Index (SJI)	**1.1**
(75 percent exceedance)	(Critical)

Runoff:

Despite the significant storms that moved through most of the State, the March flows in the Sacramento, San Joaquin and Tulare Lake regions, were 64, 40, and 28 percent of average, respectively. The bulk of March precipitation focused on the North Coast and northern Sierra where March flows in the McCloud, Klamath, Salmon, Trinity, and Eel rivers flowed above 75% of average. For the Water Year through March, flows in the Sacramento, San Joaquin and Tulare Lake regions, were 39, 24, and 23 percent of average, respectively.

Precipitation:

After four months of very low precipitation, February and March have provided relief to the precipitation situation throughout the State. The Northern Sierra 8-Station Precipitation Index (8SI) registered 143 percent of average for March (9.9 inches). Through the end of March, the seasonal total to date is up to 25.7 inches, or 51 percent of an average water year. This Water Year total still leaves a large deficit as the 8-Station Index stands at 62 percent of the seasonal average to date.

The precipitation improvement was muted in the southern Sierra as the San Joaquin 5-Station Precipitation Index accumulation was 77 percent of average for March (4.7 inches). Through the end of March, the seasonal total to date is up to 15.0 inches, or 37 percent of an average

water year. This Water Year total still leaves a very large deficit as the 5-Station Index is less than half (45 percent) of the seasonal average to date.

For the Tulare Lake region, precipitation was about 55 percent of average for March. The total precipitation for the region is 41 percent of average to date.

Regionally, the Sacramento River, San Joaquin River, and Tulare Lake regions precipitation rates through March are 48, 39, and 34 percent of their regional water year averages.

Snowpack:

Snowpack is monitored using two complementary methods: automatic snow sensor (or "pillow") readings and manual snow course measurements. The snow sensors give us a daily snapshot of snow conditions while the manual snow course measurements provide a monthly verification of snow conditions in locations where snow has been measured in the same manner as far back as 100 years.

On April 1, snow sensors recorded a snowpack that was 24 percent of average in the northern Sierra, 40 percent of average in the central Sierra, and 31 percent of average in the southern Sierra. Statewide, snow water equivalent based on snow pillow data was 33 percent of the historical statewide April 1 average – a 5 percent gain since March 1.

Results from the 233 snow courses measured this month revealed a slightly improved but still well-behind-average snowpack throughout California. Measurements in the Sacramento River Valley watersheds recorded a snowpack that is 19 percent of the historical April 1 average. Measurements in the San Joaquin Valley watersheds indicated a snowpack that is 33 percent of the April 1 average while the snowpack for the Tulare Lake region was 28 percent of the April 1 average. Statewide the snowpack was measured at 25 percent of the historical April 1 average. This represents an increase of 6 percent relative to the April 1 average since March 1.

This 2014 water year's statewide April 1 snowpack of 25 percent ranks it equal to the historic drought year of 1977 for the lowest April 1 snowpack since 1950, before which statewide records were less complete.

Weather and Climate Outlook:

The forecast for the next six days shows little to no precipitation statewide. In the central and southern Sierra, trace amounts of precipitation can be expected on days 4 and 5 of the forecast period. Freezing elevations across the Sierra will be remain high ranging from 11,000 feet to 12,500 feet over the six day forecast period.

The NWS Climate Prediction Center's (CPC) one-month outlook for April, updated March 31, suggests increased chances of above normal temperatures for all of the State. The same outlook predicts increased chances of below normal precipitation in the southern and eastern

Sierra Nevada as well as the Colorado River region and equal chances of above or below normal precipitation elsewhere in the State.

The CPC's three-month outlook (April-June), updated March 20, suggests increased chances of above normal temperatures for all of California. The same outlook predicts increased chances of below normal precipitation over all of the State.

El Niño/Southern Oscillation (ENSO) conditions are currently neutral. ENSO-neutral conditions are expected to persist through the Northern Hemisphere Spring 2014 with about a 50% chance of El Niño developing during the summer or fall.

Next Update:

The next Bulletin 120 and Water Supply Index forecasts for conditions on May 1, 2014 will be available on May 8, 2014.
The next weekly update of the Bulletin 120 forecast for conditions as of April 8, 2014 will be available on April 10, 2014.

If you have any questions regarding this forecast, please contact a member of the Snow Surveys staff. We are happy to help.